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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,821	02/23/2004	Hiroki Futatsuya	040065	5438
23850 7590 12/10/2007 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. Suite 400 WASHINGTON, DC 20005			EXAMINER GUILL, RUSSELL L	
			ART UNIT 2123	PAPER NUMBER
			MAIL DATE 12/10/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/782,821

Applicant(s)

FUTATSUYA ET AL.

Examiner

Russ Guill

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to an Amendment filed November 15, 2007. No claims were added or canceled. Claims 1 - 12 are pending. Claims 1 - 12 have been examined. Claims 1 - 12 have been rejected.
2. The Examiner would like to thank the Applicant for the well-presented response, which was useful in the examination process. The Examiner appreciates the effort to carefully analyze the Office Action, and make appropriate arguments and amendments.
3. This Office Action is NON-final due to new rejections.

Response to Remarks

4. Regarding claims 1, 6, 11 and 12 objected to for minor informalities:
 - a. Applicant's claim amendments overcome the objections.
5. Regarding claims 1 - 12 rejected under 35 USC § 101:
 - a. Applicant's claim amendments overcome the rejections.
6. Regarding claims 1 - 5 rejected under 35 USC § 112, second paragraph:
 - a. Applicant's arguments have been fully considered, but are not persuasive, as follows.
 - b. The Applicant argues:
 - c. In the Office Action, Claims 1-12 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants

regard as the invention. The Office Action alleges that in Claims 1, 6, 11 and 12, the term "N" is undefined.

d. It is our understanding that the Office Action is referring to the "N" above the sigma notation E. Applicants respectfully submit that such mathematical notation, and the meaning of "N" is known in the scientific community and should not require a definition in the claims. Reconsideration and removal of this rejection are respectfully requested.

- i. The Examiner respectfully replies:
- ii. While the Examiner appreciates the Applicant's arguments, the arguments are not persuasive. The Applicant correctly identifies that the Office Action was referring to the "N" above the sigma notation. The invention is defined by the claims, and limitations from the specification are not imported into claims, and thus, the meaning of N is uncertain because it is not defined in the claims. Accordingly, the rejection is maintained.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

a. Claims 1 - 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- i. Regarding claim 1, the claim recites, $\bar{I} = \sum_{k=1}^N F_k S_k S_k^*$ but N appears to be undefined. The metes and bounds of the claim cannot be reliably determined. Correction or amendment is required.

- ii. Regarding claim 6, the claim recites, $\bar{I} = \sum_{k=1}^N F_k S_k S_k^*$ but N appears to be undefined. The metes and bounds of the claim cannot be reliably determined. Correction or amendment is required.
- iii. Regarding claim 11, the claim recites, $\bar{I} = \sum_{k=1}^N F_k S_k S_k^*$ but N appears to be undefined. The metes and bounds of the claim cannot be reliably determined. Correction or amendment is required.
- iv. Regarding claim 11, the computer program is recited as comprising "computer-readable program code means for" performing a step. It is unclear whether a structure is being claimed or a process to be performed is being claimed. The Examiner suggests reciting the limitations of the computer program as a series of process steps, and amending the preamble in the spirit of reciting a computer-readable media on which are recorded instructions that when executed by a processor perform steps (if supported by the specification).
- v. Regarding claim 12, the claim recites, $\bar{I} = \sum_{k=1}^N F_k S_k S_k^*$ but N appears to be undefined. The metes and bounds of the claim cannot be reliably determined. Correction or amendment is required.
- vi. Regarding claim 12, the preamble recites, "A computer having a computer program product for use . . . , comprising". It is unclear whether the term "comprising" refers to the computer, or to the computer program product.

vii. Regarding claim 12, the computer program is recited as comprising "computer-readable program code means for" performing a step. It is unclear whether a structure is being claimed or a process is being claimed. The Examiner suggests reciting the limitations of the computer program as a series of process steps, and amending the preamble in the spirit of reciting a computer-readable media on which are recorded instructions that when executed by a processor perform steps (if supported by the specification).

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 6 – 10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

a. Regarding claim 6 and dependent claims, while claim 6 is directed to simulation equipment in the preamble, all of the limitations may be interpreted as software, which is functional material *per se*, and is non-statutory. The claim may be interpreted as software simulation equipment. When a claim can be interpreted to have both statutory and non-statutory interpretations, the claims must be amended to include only statutory interpretations. The Examiner suggests either reciting the limitations using "means for" language, or incorporating a processor functionally connected to memory comprising instructions that comprise the steps of a method.

Allowable Subject Matter

10. Regarding claims 1 - 12, any indication of allowability is withheld pending the resolution of the outstanding rejections.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russ Guill whose telephone number is 571-272-7955.

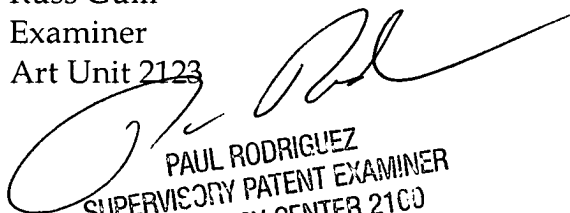
The examiner can normally be reached on Monday - Friday 9:30 AM - 6:00 PM.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Any inquiry of a general nature or relating to the status of this application should be directed to the TC2100 Group Receptionist: 571-272-2100.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RG

Russ Guill
Examiner
Art Unit 2123


PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER
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